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Suprasegmental Features and their Classroom Application in Pronunciation Instruction

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Suprasegmental Features and their Classroom Application in Pronunciation Instruction

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Report

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This is dedicated to my brother,

Christopher Powell Stuckey.

Suprasegmental Features and their Classroom Application in Pronunciation Instruction

by

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The University of Texas, 2012

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This Report examines the importance of suprasegmentals and how one might teach them. I demonstrate, through the readings of experts in the field, the close relationship between suprasegmental features and intelligibility, which I support with a review of research literature as the goal of instruction. Pronunciation and suprasegmental research in pedagogy is analyzed and discussed, and teacher and learner beliefs are compared with current research-backed conclusions. Finally, this Report provides the readers with sample lessons on nuclear stress to demonstrate how to incorporate a five-step pronunciation framework into a classroom or tutoring setting.

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Chapter One

Introduction

For over three decades, the ESL/EFL field has emphasized the importance of suprasegmentals instead of a solely segmental focus in second language pronunciation pedagogy. In 1991, Morley called for "a redirection of priorities within the sound system to a focus on the critical importance of suprasegmentals…and how they are used to communicate meaning in the context of discourse" (p. 493). Since then, much research in this area has shed light into how learnable these features are as well as how important they are for achieving successful communications in English. This Report will review such work.

The term suprasegmentals refers to language features on a larger scale than sound-level phonetics, such as vowel and consonant sounds. A suprasegmental feature has been defined as "a vocal effect which extends over more than one sound segment in an utterance, such as a pitch, stress or juncture pattern" (Crystal, 2003, p. 446). A suprasegmental effect may encompass word stress, nuclear or phrase stress, intonation, rhythm, linking, speaking rate, pausing, and other similar vocal features. Emphasizing suprasegmentals in pronunciation instruction aids learners by improving the comprehensibility of their speech and by their lowering frustration because a greater degree of change in performance is afforded by suprasegmental instruction (Avery & Ehrlich, 1992; Morley, 1991).

My research interest in suprasegmentals began while taking Dr. Veronica Sardegna's ESL Pronunciation class in the Fall of 2011. Before this point, I had no experience in pronunciation teaching or phonology. In the course of the semester, we were required to tutor two ESL students for eight weeks, which was bookended by an initial and final assessment to

ascertain where and what gains, if any, were made during the tutoring. In less than two months, my students made significant improvements with their most problematic features, and I saw first-hand the effect of my instruction. This course has been one of the most valuable in my Masters program at The University of Texas at Austin. It made me realize that a principle-guided focus on pronunciation can positively impact student problem features even in such a short time-frame.

Students desperately want to improve their pronunciation to express themselves and their ideas better and to be understood. I chose suprasegmentals as a topic of research because I understand (thanks to Dr. Sardegna and the readings she assigned for the course) how much of an instructional priority suprasegmentals are. Effective instruction of suprasegmentals can lead to tangible improvements and lower frustrations because students are able to gauge their own improvements (Avery & Ehrlich, 1992; Morley, 1991). From my experiences with Dr. Sardegna, I also knew she would be a thorough and knowledgeable guide. The composition of this Report has enlarged my understanding of pronunciation instruction, especially in regards to suprasegmentals and how they can be taught in the classroom. It is my hope that the reading of this Report will aid others in this same pursuit.

The purpose of this Report is to explore how to approach suprasegmental instruction, especially the suprasegmental features of word stress, nuclear stress, and intonation. This exploration includes acknowledging the large effect suprasegmentals have on intelligibility and also what beliefs, if any, teachers and learners hold about suprasegmentals and pronunciation, for better or for worse. Because many readers of this Report may not be aware of the terms associated with pronunciation and suprasegmentals, Chapter Two contains a glossary of the terms used in this Report. Chapter Three establishes suprasegmentals' effect on intelligibility. Next, Chapter Four discusses approaches to pronunciation instruction generally, and then

suprasegmentals specifically. Then Chapter Five explores teacher and student beliefs and how they can deviate from empirically-based research on instruction preceding it. Finally, Chapter Six includes sample nuclear stress exercises to demonstrate how the research can be applied in a language class or a tutoring setting.

Chapter Two

Glossary

This glossary defines suprassegmental features and other pronunciation that readers of this Report may find useful to know. Though these definitions have been gleaned from those who are experts in the field, the definitions do not represent all the informed voices who have sought to describe them. They are brief, simple descriptions provided only for a more convenient understanding of this Report.

Accent: Accent is how different a speech pattern is compared to a local variety (Derwing & Munro, 2009).

Assimilation: Assimilation is a universal language process of a sound assimilating, or taking on, the characteristic of a neighboring sound (Celce-Murcia, Brinton, & Goodwin, 2010). For example, the /p/ in the word *grandpa* causes the /nd/ to assimilate, or take on, an /m/. The resulting word is pronounced as /græmpɑ/.

Blending: Blends "are contracted spoken forms that do not have a conventional written form" (Celce-Murcia et al, 2010, p. 164). For example, a speaker may say *How've you been?* upon seeing a friend. The utterance *how've* resulted from blending *how* with *have*.

Comprehensibility: Comprehensibility is the subjective degree of effort (whether it is easy or difficult) a listener must expend to understand an utterance (Derwing & Munro, 2009).

Deletion: Deletion is a sound disappearing or losing articulation in certain contexts (Celce-Murcia et al, 2010). For example, the sound /t/ is lost in articulation when it is preceded by an /n/ and the /nt/ is surrounded by vowels, as in *winter*.

Dissimilation: Dissimilation is a process rare in English where "adjacent sounds become more different from each other (rather than more similar, as is the case with assimilation)" (Celce-Murcia et al, 2010, p. 171). An example of dissimilation occurs in the word *fifths.* The theta in the consonant cluster becomes a /t/.

Epenthesis: Epenthesis is a process where a vowel or consonant sound is added within a word to help in its pronunciation (Celce-Murcia et al, 2010). For example, to facilitate the pronunciation of *comfort*, a /p/ can be added between the /m/ and the /f/.

Intelligibility: Intelligibility is the listener's degree of understanding of an utterance (Derwing & Munro, 2009).

Intonation: Intonation is the voice's rising and falling of pitch in an utterance (Celce-Murcia et al, 2010).

Linking: Linking is the process of connecting either the final sound of a word with the beginning sound of the next word or the connecting of a syllable to the sound following it to create smoothly-spoken speech (Celce-Murcia et al, 2010). For example, for rhythm purposes, when uttered, the first two words of the phrase *be on time* are linked or connected with a /y/, so that the phrase sounds like *be yon time.*

Message Unit: Message units are **"**a string of words that belong together as one unit in the mind of the speaker" (Hahn & Dickerson, 1999, p. 38). The following is a sentence broken into two message units: *The 2012 TESOL International Convention / will be held in March.*

Nuclear Stress: Nuclear stress is the "word a speaker wishes to highlight" within a message unit because it is either new information, needs special emphasis, or is required for contrastive stress (Celce-Murcia et al, 2010, p. 223). For example, in the following two-line dialogue, the syllables receiving nuclear stress are noted with capitalized and bold letters:

A: Who went to the st**ORE?**

B: **THEY** went to the store.

Pausing: Pausing is a brief pause separating message units (Hahn & Dickerson, 1999).

Rhythm: Rhythm is the regular rhythmic beat found in English that is determined by different levels of stress at the word and phrase level (Celce-Murcia et al, 2010).

Segmentals: Segmentals are sounds of vowels and consonants.

Suprasegmentals: Suprasegmentals are **"**a vocal effect which extends over more than one sound segment in an utterance, such as a pitch, stress or juncture pattern" (Crystal, 2003, p. 446).

Word Stress: Word stress constitutes syllables, and more specifically the vowels within the syllables, which are "longer, louder, and higher in pitch" (Celce-Murcia et al, 2010, p. 184). For example, the stress of the word falls on the first syllable in *morning*.

Chapter Three

Suprasegmentals and Intelligibility

Introduction

Before deciding to teach a subject, one must ponder many issues. Teachers should set out clear goals and standards for their students, and, furthermore, understand what the students need most to accomplish these goals. What this Chapter proposes to do is to address these questions in the context of a pronunciation class. According to experts in the fields of pronunciation instruction, teachers should help learners to improve their intelligibility, and the means to achieving this is to focus on suprasegmentals (Field, 2005; Hahn L., 2004).

This Chapter starts by defining intelligibility. Next it compares the intelligibility principle to a competing ideology, the native-like principle, and argues in favor of an instructional model that focuses on intelligibility. The methods of rating intelligibility are then explained in the successive section. The final section of this Chapter explores the place of suprasegmentals in pronunciation instruction and their impact on intelligibility.

Defining Intelligibility

Derwing and Munro (2009) define intelligibility as the listener's degree of understanding of an utterance, regardless of a speaker's accent or the comprehensibility of his/her speech. They define accent as how different a speech pattern is from a local variety and comprehensibility as the degree of effort a listener must expend to understand an utterance. They are not the lone voice on defining intelligibility, however. Field (2005) defines intelligibility as the "extent to which the acoustic-phonetic content of the message is recognizable by a listener" (p. 401). This definition places intelligibility into a wider construct

of comprehensibility. Derwing and Munro's definition is at odds with Field's; to them, intelligibility and comprehensibility are two completely separate constructs. Both are highly correlated, however, as the more effort a listener must expend to understand an utterance, the less the listener may ultimately glean from it (Warren, Elgort, & Crabbe, 2009). Derwing and Munro explain the differences between accent, comprehensibility, and intelligibility this way: "accent is about difference, comprehensibility is about the listener's effort, and intelligibility is the end result: how much the listener actually understands" (2009, p. 480). According to this definition of intelligibility, it does not matter how difficult it was for the listener to understand the speaker's speech. As long as the listener understood the speech, the speaker was intelligible.

Establishing Intelligibility as the Model of Instruction

Two competing pedagogical ideologies in pronunciation, the intelligibility principle and the native-like principle, have vied for supremacy as models of instruction (Levis, 2005). The intelligibility principle maintains that a speaker should be able to be understood, while the native-like principle holds a learner should strive to sound like a native of the second language (Levis, 2005). That is, proponents of the native-like principle believe that learners should achieve accent-free and highly accurate L2 production skills, while proponents of the intelligibility principle do not regard accent-free production as a goal because they do not consider accent a hindrance to communication.

Though the native-like principle is still held by some and continues to affect classroom teaching practices, overwhelming evidence supports the intelligibility principle (Levis, 2005). Even when a speaker's speech is heavily accented, it is not clearly correlated with a lack of understanding (Munro & Derwing, 1999). Accent may be the most salient aspect of language,

but it does not necessarily impinge on communication. In fact, modifying accent may not improve intelligibility at all (Derwing & Munro, 2009). To communicate more effectively, researchers claim instruction should focus on features that impede intelligibility rather than those that reduce accent (Avery & Ehrlich, 1992; Dauer, 2005; Jenkins, 2000).

Even early on, before the construct of intelligibility was created, a "comfortably intelligible pronunciation" was preferred as a model over pronunciation perfection (Abercrombie, 1956). It is right and prudent that intelligibility is the model of instruction in language acquisition.

Rating Methods of Intelligibility

If intelligibility is accepted as the instructional model in pronunciation instruction, there needs to be methods of rating what is or is not intelligible. These methods of rating intelligibility differ significantly from ratings of accent and comprehensibility. Accent and comprehensibility of utterances are determined by the listeners' perceptions, measured through listener ratings, of how different or how difficult the utterance is. To determine the intelligibility of an utterance, a listener must be able to transcribe the speech, answer comprehension questions, summarize the utterance, or complete other tasks (Derwing & Munro, 2009; Warren et al, 2009). This rating does not rely on subjective perceptions, but on the performance of the listener, which underscores the two-way relationship of communicating intelligibly. Thus, intelligibility ratings derive from listener performance tasks, while accent and comprehensibility ratings rely on listener perceptions. Rajadurai (2007) takes issue with rating methods that use speech recordings, however, because she claims testing intelligibility outside of its communicative context is contrived and warps the testing. As Rajadurai claims, intelligibility is a negotiated process

involving at least two parties, the listener and the speaker, who share responsibility in effective communication. True though this may be, to rate intelligibility on a larger scale, speech recordings may be needed.

Who is chosen as raters of intelligibility has also been an object of research. For example, there is conjecture whether native speakers should be the sole judge of intelligibility with Jenkins (2000) claiming that only non-native speech should be the model. Dauer (2005) explains that though non-native to non-native English communication may be the most frequent, there is still an abundance of native to non-native (not to mention native to native) communication. Questions have also arisen over whether raters should receive special training. It has been shown that raters of intelligibility need not be trained, as trained and untrained raters end up with similar ratings (Warren et al, 2009).

Suprasegmental Features and their Effect on Intelligibility

There is no doubt suprasegmentals share a large role in intelligibility, and many researchers claim they affect intelligibility more than segmentals and should be given primacy over them in instruction (Celce-Murcia et al, 2010; Hahn, 2004). In fact, their performance has been correlated with effective pronunciation in studies by Anderson-Hsieh, Johnson and Koehler (1992) and Anderson-Hsieh and Koehler (1988). In the first article, speaking rate was shown to be critical for listeners' understanding of speech, which suggests that suprasegmentals may affect intelligibility more than segmentals. In the second article, segmentals, suprasegmentals, and syllable structure were compared on structure ratings. Suprasegmentals affected ratings the most consistently and significantly. In their empirical study, Derwing, Munro, and Weibe (1998) found that the group of students who received instruction on individual sounds and not on

suprasegmentals failed to improve in their fluency while the suprasegmental group improved significantly. Importantly, one should not simply accept all suprasegmentals as equally influential in effective communication. Suprasegementals encompass many acoustic occurrences, and some may have more of an impact than others. The following paragraphs will examine the relation between intelligibility and the individual suprasegmentals of word and nuclear stress, which are the most researched so far. Empirical studies on the effect of other suprasegmental features (e.g. linking, pausing, rhythm, intonation, and speaking rate) on intelligibility are needed.

Considering research on the subject, word stress (also known as lexical stress) seems to have the profoundest effect amongst the suprasegmentals on a speaker's intelligibility. Word stress is the emphasis in each meaningful lexical unit of a particular syllable. In English, not all syllables are given equal weight as they are in some other languages. Misappropriation of word stress can seriously impair intelligibility especially when shifting syllable stress to the right. Furthermore, Field (2005) illuminates the relation between word stress and intelligibility: "if lexical stress is wrongly distributed, it might have serious consequences for the ability of the listener, whether native or nonnative, to locate words within a piece of connected speech" (p. 419). Word stress is used by listeners to identify words in the utterance. This link between word stress and word recognition has also been found in studies elsewhere (Lindfield, Wingfield, & Goodglass, 1999; Cutler, Dahan, & van Donselaar, 1997).

A mis-stressed syllable may phonologically affect a word's sound. Stressing a syllable elongates its sound and changes the quality of a vowel, while dis-stressing a syllable shortens its sound and often changes the sound of a vowel to a schwa. In one study, three Australian listeners transcribed what they heard from three foreign L2 speakers. The communication breakdown between the two groups was associated with incorrect word stress placement

(Zielinksi, 2008). Vowels and syllable initial consonants are of particular importance to a listener, as non-standard production of them based on word stress misappropriation impinges on intelligibility (Zielinksi, 2008).

Some researchers deny the supremacy of suprasegmentals, including word stress, in pronunciation instruction. For example, Jenkins acknowledges word stress does have an impact on native speaking listeners, but she claims it does not significantly affect nonnative to nonnative speech intelligibility. Besides, according to Jenkins (2000), the rules of word stress are not teachable. Dauer (2005) critiques Jenkins' refutation on three points. First, Dauer denies that word stress is not teachable; 85% of polysyllabic words can be explained using a handful of rules. Second, the teaching of many aspects of pronunciation such as aspiration, vowel length, and nuclear stress would be unpredictable unless students were taught word stress. Finally, no indication of word stress is given in the English writing system, leaving students unaware of its role in spoken communication. These sound counters to Jenkins' argument allow one a deeper perspective into how integral words stress should be in any pronunciation curriculum.

Though there is conjecture on its impact, many researchers believe nuclear stress (also known as sentence stress, primary stress, and phrasal stress) also plays a important role in intelligibility. Nuclear stress is the emphasis on a single (at times, two) word in a phrase, or message unit. A word is stressed in the rhythm of the phrase to cue the listener's attention because it is either new information, something being contrasted, or the word is given explicit attention by the speaker. Nonstandard phrasal stress can lead to several problems in communication. If speakers do not stress any words in their phrases, then their monotone speech will not give any clue to important or new information. The flipside of this would include a speaker stressing every word in a phrase, which would also confuse the listener as to what

information should be gathered from the utterance. Another common error in phrasal stress would be placing the primary stress on an inappropriate or already mentioned word in a phrase. This misplacement could either lead the listener towards an unintended conclusion or not convey important new information. In an investigation of L2 speakers' nuclear stress effect on native speaker intelligibility, Hahn (2004) stated, "This research provides evidence that primary stress contributes significantly to the intelligibility of nonnative discourse, and it strengthens the broadly stated claims in the pedagogical literature on ESL pronunciation that teaching suprasegmentals is important" (p. 218).

As a testament to the importance of nuclear stress, even among those who argue against the primacy of suprasegmentals over segmentals, there is at least some agreement about teaching nuclear stress. Jenkins, who rejects native speaker judgment standards of intelligibility, believes that, of the suprasegmentals, only nuclear stress should be seriously included in lessons because of its importance and relative ease of teaching (Jenkins, 2000). Jenkins includes nuclear stress in her Lingua Franca Core, professing that nuclear stress seems "to be crucial as safeguards of mutual intelligibility in interlanguage talk" (2002, p. 96). Dauer (2005), who disagrees with Jenkins' rejection of suprasegmentals in her reaction article, does agree with her on several issues including the importance of nuclear stress for intelligibility (Dauer, 2005). Furthermore, Hahn (2004) proposes that though phrasal stress may not help in the identification of words, it may help listeners in their ability to remember or understand the content of the utterance. It could be that a speakers' stressing and distressing of words may aid the attentional processes of the listener to attend to new information processes or refer back to prior information, thus making appropriate connections for long-term memory storage. This is a fascinating possibility and more research on this subject would be welcomed.

While there is some empirical support for teaching suprasegmentals in general, and nuclear and word stress specifically, there seems to be a dearth of research concerning other specific suprasegmentals features, such as linking, pausing, rhythm, intonation, and speaking rate (Hahn L. , 2004). Speaking rates, pausing, and intonation have been directly linked with accentedness and comprehensibility in studies (Kang, 2010). However, accentedness and comprehensibility, although correlated to intelligibility, are separate constructs. Besides, listeners' judgments of accent and comprehensibility can be either biased or a product of ignorance (Derwing & Munro, 2009). If there is a legitimate breakdown in intelligibility derived from an especially heavy accent, then it can and should be addressed. However, accent is connected with identity and can be a scapegoat for discrimination. Communication breakdowns decrease when the native speaker has some exposure to the L2 language and/or culture (Gass & Varonis, 1984). I agree with scholars who assert that more research should be done in measuring the intelligibility of the various features of suprasegmentals (e.g., Celce-Murcia et al, 2010; Derwing & Munro, 2005; Hahn, L., 2004).

Chapter Four

Suprasegmentals in Pronunciation Instruction

Introduction

To accept suprasegmentals' role in intelligibility and the necessity of their instruction, one must consider the pedagogical research done on pronunciation and suprasegmentals. As Derwing and Munro (2005) posit, it is unfortunate that more research has not been done on L2 pronunciation. Regardless, solid teaching practices should derive from what sound empirical research there is, rather than relying on some sort of intuition.

This Chapter starts with a discussion of pedagogical concerns at the macro-level. The first section discusses current pronunciation teaching principles. From this point, the focus narrows onto research on teaching the individual suprasegmentals of word stress, nuclear stress, intonation, and, briefly, connected speech and rhythm to complete the micro-level considerations. A review of technology's contributions to suprasegmental instruction rounds out this Chapter.

Pronunciation Instruction

As teachers must perceive the pedagogical implications of research, students must be made aware of what they are doing. Students will not pick up pronunciation features on their own; they need help noticing (Derwing & Munro, 2005). In a study involving Vietnamese ESL learners, it was shown that explicitly teaching students about ESL pronunciation features such as word stress allowed them to master the features much more quickly than simple exposure to the language (Nguyen & Ingram, 2005).

Along with awareness-building, there are several other classroom issues to consider before delving into the principles of pronunciation instruction. Issues such as the optimal group

size, conscientious feedback, authentic materials, strategies to encourage learner self-involvement, L1 transfer, and the nature of interactions should all be taken into account when implementing pronunciation instruction.

Second language classrooms can be rife with anxiety, and the way in which teachers and students interact can lessen or intensify that anxiety. Group speaking activities, conscientious feedback, and positive interactions are ways of lowering ESL classroom anxiety. Speaking activities practiced in groups are a good strategy to avoid self-consciousness. Having individuals speak in front of the class can be a daunting prospect for many students, so incorporating speaking activities at the small group or dyad-level would make ESL students more comfortable in class (Murphy, 1991). Teachers should also strive for tactful feedback on student errors to avoid embarrassment which leads to increased self-consciousness (Murphy, 1991). The raising of self-consciousness appears to initiate a harmful, self-perpetuating cycle. It has been purported that self-consciousness leads to tension which leads to poor performance which leads to frustration which leads to more tension and on and on (Stevick, 1978). Along with lowering anxiety, teachers should create a classroom atmosphere suitable for learning. Interactions need to be enjoyable and supportive (Morley, 1991). With such an atmosphere and using strategies to lower anxiety, students will have fewer impediments in their learning.

Ideally, learners should become self-involved in the learning process. Instead of completing mindless drills, students learn best in pronunciation study when they are actively engaged in it (Morley, 1991). A teacher must give the students the tools they need to establish this self-involvement. The following four paragraphs supply Morley's four ways of guiding students to this goal (1991, pp. 503-504).

First, in *recognition of self-responsibility*, students are shown how to take responsibility for their own work. The teacher accomplishes this objective by providing clear directions and guidelines, and carefully designing tasks, outcomes, and responsibilities for class and small-group activities. Focused cues are also furnished for self-monitoring and pronunciation modification.

Second, in *development of self-monitoring skills*, the teacher begins with gentle consciousness-raising activities to build student self-awareness and self-observation skills. The teacher can build these skills by giving tangible suggestions to students in observing their own speech for a small number of pronunciation features. This development can also be aided by teaching students self-rehearsal techniques, such as talking or listening to oneself, to self-monitor their speech. Morley also suggests that the teacher should gradually shift the students from the dependent mode of imitation and regulation by the teacher to an independent mode of self-monitoring through unregulated, free speaking or independent rehearsal exercises. This process of controlled to communicative practice is covered in more detail later in the Chapter as we delve into suprasegmental pronunciation approaches.

Third, in *development of speech modification skills*, it is important to help students in developing a positive understanding of roles and accept feedback positively. The teacher should give the students cues about what, where, and how to modify their productions as well as give encouragement and support.

Fourth, in *recognition of self-accomplishment*, students need to be made aware of the small successes and progress they would not otherwise notice. The teacher can accomplish this objective by providing students with assessments based on degree of change, not on absolutes. Self-comparison should be the goal instead of student-to-student comparisons.

As a final consideration before outlining some pronunciation principles, one ought to still regard the ESL learner's L1. This consideration of the L1 may remind the reader of the contrastive analysis approach. While this is not the approach this Report espouses, the differences between two languages do affect second language acquisition. Nguyen and Ingram's (2005) article regarding Vietnamese ESL learners is a case in point. Vietnamese is a tonal language, while English is a stressed language. Nguyen and Ingram explain this difference in this manner:

> Vietnamese, as a tonal language, has no system of culminative word stress but a system of six lexical tones in which pitch is used to contrast individual lexical items or words. As a result, English and Vietnamese differ in terms of how they manipulate the acoustic correlates in word-level prosody. (p.310)

When teaching pronunciation in general and suprasegmentals specifically, it is advisable to be aware of L1 differences that may affect the production of certain features.

Before setting out to teach pronunciation, one should keep some guiding pedagogical principles in mind. Levis and Grant (2003), Sardegna and McGregor (2012), and Celce-Murcia et al (2010) supply complimentary sets of principles that can guide pronunciation instruction as well as the choice of materials, resources, and tasks for practice.

Levis and Grant's (2003) article contains three principles. The first states that primary, though not exclusive, focus should be placed on suprasegmentals. This has already been discussed in Chapter Three. Still, the importance of including and focusing on suprasegmentals in pronunciation curriculum cannot be understated. Secondly, a central focus should be maintained on speaking in class. It may seem like common sense, but speaking is irreplaceable in a pronunciation class. The teaching of pronunciation via meaningful communication will

naturally lead to problem language features rising to awareness. Finally, pronunciation instruction should fit the constraints of the speaking task. This means that pronunciation instruction should include planned and unplanned speaking tasks. Sometimes situations allow planned speaking, such as when giving a speech or making a presentation, or unplanned speaking where speech production is spontaneous. Both are needed.

Sardegna and McGregor (2012) list three principles to guide teaching. Firstly, pronunciation goals should be prioritized based on student need. Read-alouds and communicative activities are regularly used in an attempt to identify what features to address and in what order. However, three essential ingredients are often overlooked when assessing student needs: student awareness, target prioritization for practice, and the setting of realistic goals agreed upon by student and teacher. When students are aware of their own performance and are able to evaluate it, they will be capable of identifying their challenges to overcome. Collaboration with and guidance from the teacher will lead to the construction of clear, prioritized classroom goals. Secondly, teachers should empower students with explicit instruction, guided practice and strategy use. To enable students to understand how to change their speech, teachers should offer students explicit explanation and instruction on target features, and teach them strategies on how to practice and monitor their own production of the target features. Thirdly, after instructing the students on strategies to monitor their own production, teachers must provide their students with the opportunities to do so, and to reflect on their progress. Pronunciation improvement entails many opportunities for self-monitoring. Students need to check their target feature production for accuracy. In addition, reflections noting progress can lead to increased student motivation.

Celce-Murcia et al (2010) argue for a communicative framework for teaching pronunciation involving four principles. Similar to Levis and Grant's second principle, their first principle maintains that language and pronunciation is best learned in a communicative framework because "the ultimate goal of the language classroom is for learners to be able to use the target language effectively for communicative purposes" (p. 44). Next, the materials and texts used should reflect the needs and interests of one's students to raise their motivation to communicate in the target language. If a student feels the materials and tasks are relevant and authentic, they will be more engaged in class and participate. Achieving high levels of student engagement in class is the third principle, as students are more efficient learners when they are active participants. Besides providing relevant, authentic tasks, a teacher should encourage students to ask questions of the teacher or their fellow classmates. Students ought to also be encouraged to work collaboratively in groups to negotiate meaning. This principle links in with the fourth principle, which consists of enabling learners to express their ideas. Students must feel empowered enough to express themselves in different social interactions, whether it be student-teacher, student-student, in small groups, or in front of the whole class. Lastly, the teacher must develop an environment where errors are accepted and expected from the students as a natural part of the learning and communicative process. Student must take communicative risks to try out their working hypotheses to either confirm them or alter them after receiving feedback or additional exposure.

When introducing a pronunciation feature to students, a teacher must neither begin with production of the feature nor expect the student to just pick up the feature from mere exposure, especially if it is a suprasegmental. Instead, as some researchers have insisted, teachers should guide their students through phases beginning with awareness and prediction rules and moving

onto perception and then production (Hahn L. & Hahn K., 2007; Sardegna 2009, 2010, 2011; Sardegna & Molle, 2008). The progression from one phase to the next should be a gradual one where what may be seen as"backsliding" is a common part of the learning process (Celce-Murcia et al, 2010). This Report will utilize a combination of the principles outlined by Sardegna and McGregor (2012) and Celce-Murcia et al's (2010) communicative framework and its five steps.

The first step of Celce-Murcia et al's (2010) five-part framework, description and analysis, raises awareness of target features, and it is a prerequisite to pronunciation acquisition (Schmidt, 2001). This can be accomplished through drawing students' attention to the associated articulatory features and how the features are used in and affect discourse (Celce-Murci et al, 2010). Also, as suggested by Sardegna & McGregor (2012), explicit teaching of pronunciation rules and prediction strategies can enhance students' ability to identify the features they need to improve.

Perception is the phase following awareness, and this is achieved through listening discrimination exercises. Strengthening the skills of perception of a target feature can lead to significant improvement in production (Celce-Murcia et al, 2010). Tasks asking students to identify or distinguish a target feature from other similar features are utilized to help a student effectively perceive.

Production can be broken into three separate phases. The first production phase is more controlled and as a student advances the tasks become less controlled. Morley (1991) refers to these stages of production as imitative, rehearsed, and extemporaneous (pp. 509-510). They begin as tightly controlled, move to guided self-practice, and end with independent self-practice. Celce-Murcia et al (2010) use the terms controlled, guided, and communicative, and these are the terms that shall be used in this Report (p. 45). Levis and Grant (2003) describe them this way:

> For segmental and suprasegmental features, oral practice progresses from controlled practice in oral reading, to semi-structured practice in information gap activities and dialogues, to less structured communicative practice. In other words, the oral practice moves from a focus on phonological form to a dual focus on form and meaning. (p.13)

The following three paragraphs explain the different communicative framework phases of production according to Celce-Murcia et al (2010).

Controlled practice directs a learner's attention to the accurate production of a target feature. The focus is on form and accuracy. Activities for this category include repetition practice and oral readings of minimal pairs, sentences, and short dialogues. This phase is a crucial one, yet it should be used only as long as necessary, as it is ultimately imitative (Morley, 1991). Once the student can easily produce the target feature, the next phase needs to be introduced.

Guided practice still focuses on form while introducing an attention to meaning. It is different from controlled practice in that one is required to furnish one's own ideas or information in the speaking task. The guided practice task is not open-ended, however, as it limits a speaker's input by controlling the context and providing much of the language involved in the task. Cued dialogues, information-gap activities, and sequencing task exercises are examples of guided practice. According to Morley (1991), the purpose of guided practice is "to work towards stabilization of modified pronunciation/speech patterns…so that the reader can manipulate them at will" (p. 509).

Communicative practice constitutes an open-ended, genuine discourse exchange. The speaker must apply the newly acquired target feature in a communicative and meaningful task,

not limited by context or supplied vocabulary, thus attending to both form and meaning simultaneously. Its purpose is to internalize the feature, so it naturally occurs in planned and unplanned speech (Morley, 1991). There are a wide variety of activities to choose from in communicative practice, such as open-ended storytelling, interviews, debates, value clarification, and problem solving tasks.

Individual Suprasegmentals

The theoretical frameworks presented in the previous section may act as a general guide for teachers in pronunciation instruction, but specific guidance on suprasegmentals is still warranted. As put forth at the beginning of this Chapter, this discussion is moving from the macro to the micro-level. Individual suprasegmentals deserve separate attention. As opposed to segmental features, suprasegmental features are neither orthographically represented nor visible to students, so tangible methods must be used to make learners aware of and able to perceive and produce these features (Celce-Murcia et al, 2010). The following paragraphs will discuss pedagogical approaches to word stress, nuclear stress, intonation, and, briefly, connected speech and rhythm.

Field (2005) provides four ways of presenting word stress to students: by rule, vocabulary item, analogy exercises, and by applying word stress to segmentation (pp. 420-421). Though word stress may seem random to learners and even native speakers of English, there are patterns that follow rules. Presenting English word stress through a set of rules is one method of teaching it. This method is followed by Hahn and Dickerson (1999) and its effectiveness was empirically tested by Sardegna (2009, 2012). It is true that learning a rule is different from internalizing a stress pattern, but the awareness its teaching builds can lead to the internalization of the

regularities of the English lexicon. Students should know that ninety percent of content words in speech are either monosyllabic or begin with a stressed syllable (Cutler & Carter, 1987). Of the remaining ten percent, many contain prefixes or initial syllables that resemble the words of the ninety percent.

Presenting word stress through vocabulary is another method. As new lexical entries are introduced to students, the students can learn both their semantic meaning and stress pattern. This can be done through stress-pattern practice included in the oral practice of new words. This method highlights the importance of word stress; stressed syllables are needed cognitively to identify words (Field, 2005). The stressed syllable "forms part of the access code by which the language user locates a word in his or her mental word store" (Field, 2005, p. 420).

Analogy exercises help the student to both group words with similar stress patterns and notice words which do not follow the group pattern (Field, 2005). Stress patterns are linked closely in the mind and when someone commits a "slip of the tongue," the incorrectly chosen word is one with a similar stress pattern (Aitchison, 2003). It seems analogy exercises can be tools to internalize stress patterns.

Lastly, word stress can be utilized to segment speech into identifiable words. Developing a skill in perceiving word stress is an important skill needed to divide continuous streams of English speech into separate lexical units (Field, 2005). Word segmentation through stress can be accomplished by presenting short stretches of English speech for students to break into words by listening for stressed syllables.

Shifting from word-level to phrase-level, nuclear stress is an important suprasegmental to teach non-native speakers. Even those who disregard the majority of the suprasegmentals still maintain nuclear stress' importance and, in fact, claim it is even more important for intelligibility

for non-native than native speakers (Jenkins, 2002). Hahn (2004) has offered strategies in the support of teaching nuclear stress (pp. 217-218). The article advocates using longer discourses in nuclear stress activities. This strategy focuses practice on correctly producing word stress in the student's own discourse, such as in planned oral presentations or conversations. Even in classes that include general oral speaking tasks such as debates, there are rich opportunities to bring contrastive stress in statements of disagreement or contrasts. Just as perception exercises were a part of the five-step pronunciation framework earlier in this Chapter, Hahn also advises student identification of nuclear stress in recordings of discourse. Hahn explains, "Comparing speech samples with correct, misplaced, and missing primary stress may also help learners perceive primary stress and its meaning" (p. 217). The last strategy listed is teaching students how to distress old information. This is especially important because when old information is not distressed it negatively affects comprehensibility, and this error is common to non-native speakers (Hahn, 2004). Low pitch indicates an important contrast between stressed and unstressed words, and students must learn this to effectively communicate meaning.

Intonation is affected by and affects nuclear stress. They are linked. As the last paragraph attested, pitch levels on a stressed syllable can convey meaning. Contrary to what is taught at times, intonation does not depend on grammar. For example, statements do not always end with falling intonation, and yes/no questions do not always end in rising intonation (Levis, 1999). Intonation is more complex than that, depending on many contextual variables.

According to Levis (1999), four principles should be followed when introducing intonation into a classroom:

1. **Intonation should be taught in explicit context**. Intonation loses its meaning and significance when it is taught outside of a communicative context. Materials using

isolated sentences fail to achieve their purpose. As in nuclear stress, context is everything.

2. **Learnable and generalizable statements must be made about meaning.** Since researchers have found that intonation makes independent contributions to meaning, a particular intonation in one sentence could have many meanings. An intonational feature is not generalizable to all sentences, so intuitive judgments regarding the affective meaning of an intonational feature should never be expected of students. Inferring attitude from intonation is an inaccurate measure, and it is a problem even for advanced learners of English.
3. **Intonation should be taught in the context of a communicative purpose**. This, simply put, means intonation should be taught to communicate meaningfully where the object is not to just to learn "intonation" per se, but holistically instead.
4. **Intonation should be taught with realistic language.** Stiff, formal speech using complete sentences is not realistic speech. Attempting to teach intonation using this sort of language is not preparing students for real world utterances. The goal of instruction should be effective communication, not the intricacies of intonation features in unrealistic speech. To find examples of realistic language for perception exercises, one can use a podcast, MP3, or an uploaded audio or video file online. These contain natural language that has the ability to expose the student to the desired target feature. Once the student is aware of the feature and can perceive it, a student could listen to short extracts and repeat them using the correct feature. This practice can lead to tasks with more creative freedom allowing one to use one's own ideas and vocabulary to demonstrate the intonational feature.

Following these principles can help counteract the difficulty inherent in the complexity of intonation, its affective meaning, and possible L2 cultural interference.

Beyond word stress, nuclear stress, and intonation, other suprasegmentals include rhythm, pausing, and connected speech phenomena such as linking, blends, assimilation, dissimilation, deletion, and epenthesis (see Chapter Two for a definition of these terms). This is by no means an exhaustive list; there are more suprasegmental features. The pronunciation frameworks discussed in this Chapter, however, can apply to all suprasegmental features. There are a couple general issues to note about connected speech and rhythm, however.

Deciding on which connected speech features to cover depends on the teaching context. If the course is devoted to pronunciation, then the students should be exposed to consonant-to-vowel linking, vowel-to-vowel linking, consonant assimilation, and palatalization because of their frequency in spoken English. Teachers will have sufficient time in such a course to explain and practice all these pronunciation targets, as discussed and shown in Sardegna (2011). If pronunciation is integrated into a class learning multiple skills, the teacher should instead focus on one feature of connected speech that arises naturally according to the context of what is being taught (Celce-Murci et al, 2010).

English, being a stress-timed language, must be understood by students as having a rhythm to its speech that is tied to word and nuclear stress. Using the five part pronunciation framework, a student can be made aware of and eventually produce rhythms that positively affect intelligibility in their speech. To begin with, "sing song" style poems or limericks are good choices to develop perception skills for rhythm. The teacher and student can tap the table, clap or do something else to emphasize the beat. Later, students can, through controlled practice, read aloud simple poems and such to produce the correct rhythm. Eventually, more elaborate

discourse (affected by word and nuclear stress) can be imitated and finally produced (Celce-Murcia et al, 2010).

Technology

The introduction of online and computer technology into pronunciation classrooms carries with it many advantages. For one, it encourages learner autonomy, an important part of pronunciation instruction (Jenkins, 2004). Computer technology "can enable students to work on improving their pronunciation independently, focusing on aspects of pronunciation relevant to individual needs, based on L1 (first language) background and language learning goals" (Pennington, 1999). It also grants a greater amount of exposure to target features (Jenkins, 2004). Plus, computer assisted pronunciation (CAP), as opposed to a real teacher, never tires, is always consistent, and provides a variety of both the number of voice models and opportunities for visual feedback (Levis, 2007).

Because of its advantages and the fact that many teachers lack proper pronunciation training and/or have limited class time devoted to pronunciation, computer-assisted pronunciation instruction fills a critical need. Regrettably, pronunciation software is frequently not based on empirically sound pedagogy and it can appear as dressed-up, mind-numbing drills. Also, the technology can struggle with giving accurate feedback for pronunciation errors. Both of these problems are related to automatic speech recognition software (ASR). The possible strength of ASR is the ability to give immediate feedback on student pronunciation. Feedback from CAP should not only be immediate and accurate, but also constructive, informative of one's progress towards goals, and a source of strategies to overcome errors. Unfortunately, though it works more effectively for native speakers, ASR feedback accuracy for non-native speakers falls

short. Warren et al (2009) state, "The two main problems with existing CAP software are the limitations of automatic speech recognition which are yet to reach maturity, and the lack of a clear pedagogical basis in software design" (p. 98). This is a shame because incorrect feedback is an "enormous" problem (Levis, 2007, p. 193). Incorrect feedback can prove extremely frustrating to language learners, and the situation is worsened because attempts to make error correction more precise actually increase the chances of incorrectly assessing utterances (Levis, 2007). The answer to this may be to limit ASR to simple recognition tasks until the technology has improved further.

Another issue in CAP programs is the lack of suprasegmentals inclusion. To assess the possible effectiveness of CAP, materials should be chosen that focus on suprasegmentals (Tanner & Landon, 2009). In a study done by Tanner and Landon (2009), a self-directed computer assisted technique was evaluated that used oral readings to teach pausing, word stress, and sentence-final intonation. This technique was called cued pronunciation reading (CPR). Three qualities differentiate it from other oral reading techniques. Firstly, because it is computer assisted, the technique is almost entirely self-directed. Teachers raise awareness initially by giving an overview and instructing the student on how to predict the occurrence of the suprasegmental features. Being self-directed, students complete tasks independently, and there is no need for teacher feedback on their recordings. Secondly, perception and production tasks use the same passages instead of using different passages for both. Thirdly, students receive feedback by means of checking with an answer key. After receiving feedback, students practice production with recorded native speaker models.

The study evaluating CPR found that, though there was criticism from the students requesting more feedback, there were significant improvements in pausing, perception of word

stress, and controlled production of word stress (Tanner & Landon, 2009). The gains might have been even larger if not for an apparent lack of motivation that was revealed when only half of the participants completed nine or more weekly readings out of the eleven week study. This apparent lack of motivation could be attributed to the limitation that students had to complete the CPR tasks in a computer lab. To be truly self-directed, students need the freedom to complete tasks wherever and whenever they choose is convenient. Despite this limitation, the findings are encouraging. The ability to perceive a suprasegmental may, after all, precede the ability to produce a suprasegmental, and controlled production may precede spontaneous production. What is more, these gains were achieved without any teacher feedback whatsoever. The only feedback supplied was the computer's answer key. Tanner and Landon (2009) state the following about the results of the study:

> For language instructors who do not feel comfortable teaching pronunciation or who cannot fit it into their curriculum, self-directed, computer-assisted cued pronunciation readings can provide an effective way to help students improve their ability to perceive, predict, and produce prosodic features outside of class. (pp. 61-62)

One can certainly imagine the advantages of using a well-designed, self-directed CPR program, whether they are untrained in pronunciation or not.

Teachers should have some basic understandings of CAP if they wish to use it. This includes, through their students' and their own exploration, understanding the strengths and limitations of CAP and ASR in a variety of language learning applications. Exercises can be appraised by going over them on one's own to see how effective or ineffective they are. Teachers should also become acquainted with how to develop and test their own tailor-made CAP exercises through the use of authoring tools (Levis, 2007). If teachers want to make

effective use of the tools technology affords them, then investing time into their understanding is advisable.

Chapter Five

Teacher and Learner Beliefs

Introduction

Even with widespread research supporting suprasegmentals' primacy in intelligibility, a discrepancy remains between suprasegmentals' theoretical support and their pedagogical application. Beliefs of teachers and learners impact the efficacy and implementation (or lack thereof) of pronunciation instruction. Studies have illuminated the gaps in teachers' and learners' knowledge and attitudes that need remedying through training, education, and focused curriculum and policy. If the findings of research are to be implemented, then measures must be taken to apply them in the classroom. This Chapter begins by explaining how crucial proper pronunciation training is. Then it enumerates various misconceptions and failed pronunciation practices and reviews a number of impediments to pronunciation instruction. Finally, it considers learner beliefs before a final section explores how the mismatch between beliefs and sound research can be remedied.

Importance of Teacher Training Programs

There is a striking need for pronunciation training in foreign/second language acquisition. In Canada, for instance, only about 30% of ESL teachers have even had formal pronunciation training (Breitkreutz, Derwing, & Rossiter, 2001). Many second language teachers have little or no experience in pronunciation instruction and may be unaware of its importance and how to incorporate pronunciation into the curriculum. Those with ESL-related educations may realize pronunciation is an integral part of second language instruction, but have no idea on how to teach the subject. Even teachers who have taken pronunciation coursework face similar obstacles,

because many pronunciation courses are merely theoretical and fail to contain any applied component (Baker, 2011). There seems to be an overall paucity of practical application showing teachers how to teach pronunciation in some ESL university programs.

Whenever a teacher's education fails to cover instructional content, a person is left to his/her own devices to teach the content to the best of his/her knowledge. People may avoid the topic because they do not feel comfortable being involved with a task in which they have little background knowledge to guide them. They might consider the matter unimportant and ignore it if the matter was not given proper emphasis in their training. Most likely, people will rely on their intuition, and base their actions on what little background knowledge and preconceptions they have. Teacher intuition, though valuable, should not replace solid pedagogical research. However, when it comes to pronunciation instruction, teacher intuition, not research-based criteria, often determines the teachers' perceptions of importance and learnability of certain pronunciation features (Levis, 2005). With all the research supporting pronunciation instruction, teachers are still uncertain on how to incorporate pronunciation into their classes (Levis & Grant, 2003). Left with a pedagogical vacuum, teachers must rely on their *gut.*

When pronunciation is a component in curriculum, teaching priorities can vary widely. Priorities are a reflection of the education level and training a teacher has received. In a recent study of a handful of ESL teachers, those with graduate-level educations in TESOL, applied linguistics, or linguistics emphasized suprasegmentals (Baker, 2011). An ESL/EFL-related, graduate-level education raises awareness and underscores the need for suprasegmentals in pronunciation instruction. Contrasted with the highly educated teachers in the study, the teacher with the lowest level of education and little experience focused solely on consonants sounds, which represent more salient segmental concerns.

Teachers' Misconceptions and Uninformed Practices

The following are a few unfortunate misconceptions and counterproductive practices, based not on research but on hearsay or an uninformed intuition.

1. A common misconception among teachers is the belief that teaching suprasegmentals is more difficult than teaching segmentals. Baker (2011), for example, found that her teacher participants deemed teaching vowels easy, while teaching different suprasegmentals caused them different problems. Some teachers saw sentence stress and pausing as easy to teach. Yet, sentence stress instruction, which included a technique using a baton, only worked well when the dialogue was scripted. It became cumbersome when the students undertook improvised dialogue exercises. Others complained there was not enough time in class to cover prosodic elements, and one teacher agonized over how "brutal" and overwhelming it was to do a needs analysis based on suprasegmentals. Of the handful of teachers in this study, only one felt confident in teaching pronunciation at all levels. It was not surprising that he had the highest degree (a PhD), the most experience teaching, and a habit of reading articles on pronunciation during his off-time.
2. Teachers tend to ignore meaningful communicative speaking activities when teaching pronunciation. Some teachers spend time on controlled and guided practice, but ignore communicative practice altogether. The actual speaking practice in class is often unrelated or even foregone (Levis & Grant, 2003). However, communicative practice is considered an integral part of Celce-Murcia et al's (2010) pronunciation framework.

3. In speaking classes, teachers may roughly follow the five-part pronunciation framework, but they apply it backwards. The activities begin communicatively with little structure and then constrict the choices available to the student. This may happen when pronunciation is taught unsystematically, or when a pronunciation error is so egregious, it needs correcting (Levis & Grant, 2003). According to Celce-Murcia et al's pronunciation framework, however, a student must, at first, attend to form before moving on to form and meaning. Applying the framework backwards does not allow this learning process.
4. Untrained teachers can rely on textbooks and software instead of addressing individual student needs. This is not effective instruction because most materials lack a sound pronunciation foundation (Derwing & Munro, 2005).
5. Some teachers unwittingly use counterproductive strategies to teach pronunciation. A common strategy I have heard bandied about that was debunked in Derwing and Munro (2005) was the holding of a pencil between one's lip and nose as an aid to pronunciation.
6. Some teachers believe technology is the cure-all for pronunciation instruction. Much computer-assisted language learning software is not tailored for the needs of individual students, and, as stated before, automatic speech recognition technology is not advanced enough to give accurate pronunciation feedback to non-native speakers (Warren et al, 2009).

Impediments to Pronunciation Instruction

Because of a lack of skills, knowledge and confidence, some teachers avoid pronunciation altogether. An Australian study discovered just that in interviews with eight ESL teachers chosen from 176 received questionnaires (MacDonald, 2002). All the interviewees admitted they did not spend enough time on pronunciation, and all except one did not enjoy it and believed they were not any good at its instruction.

If it follows that increased competence can lead to increased motivation to complete a task, then one should seek what is stymying the competence of teachers in regards to pronunciation instruction. In MacDonald's (2002) study, curricula, methodology, and a lack of suitable materials contributed to teacher inadequacies. MacDonald found that there were no set learner goals, vague objectives, and teachers were unaware of legitimate assessments of intelligibility. Furthermore, teachers were not sure how to monitor students' speech, including correcting students and providing feedback. Teachers sought "off the shelf" materials instead of creating or adapting materials. MacDonald used this evidence to bring to light the unfortunate fact that pronunciation is still not considered by many to be a central role of an ESL teacher. Limited available materials, curricula devoid of tangible, pronunciation objectives, the education of teachers, and the lack of ongoing, quality professional development and training fail to give teachers the tools needed in the instruction of pronunciation with its attendant emphasis on suprasegmentals (Baker, 2011; MacDonald, 2002) . This leaves teachers with a shifting foundation and a grasping at straws instead of with strong roots to base their teachings on.

Learner Beliefs

Learner beliefs should not be forgotten and buried beneath all the attention paid to teacher beliefs. Learners are not empty vessels simply waiting for the impartation of knowledge by their instructors. Their goals and beliefs are as influential on their learning as their teachers'. Unfortunately, Derwing and Rossiter (2002) found there is a mismatch between learner beliefs and pronunciation instruction, particularly on suprasegmental instruction. In their study, one hundred adult immigrants from nineteen different language groups were asked, among other things, their perceptions of their pronunciation needs. The results showed a discrepancy between what they reported and current practice in pronunciation. The adults in the study were either not getting pronunciation instruction or not benefitting from it. The reasoning for this discrepancy could be that systematic suprasegmental instruction is missing from many ESL classrooms, and teachers are hesitant to teach pronunciation because of the number of different first languages in classes.

Some beliefs learners hold about the fundamentals of intelligible oral communication are uninformed and, sadly, false. Learners tend to over-emphasize segmental errors over suprasegmentals ones. This is illustrated in Derwing and Rossiter's (2002) finding that 84% of the problems learners self-reported were segmental. Within these self-reported segmental problems, learners also focused on pronunciation errors that actually had low *functional load*. Functional load is the degree of importance a particular sound has within its segmental context that allows it to still be understood. A segmental with high functional load would be more difficult to identify if it was not heard properly, while one with low functional load could be deduced from the context of the segmentals surrounding it. Therefore, vowels generally have a high functional load, while some consonants such as θ and ð have functional loads so low, they may not even be worth addressing. It is apparent these mistaken beliefs are a result of certain

failures in the application of current ESL/EFL pedagogy. Understandably, learners focus on segmental issues because of their salience. They have neither the knowledge nor the language to be aware or talk about problems with suprasegmentals. Derwing and Rossiter (2002) state, "Awareness of suprasegmentals, especially in the absence of instruction, is therefore limited" (p. 162). Suprasegmentals are not orthographically represented and not widely known to students or even taught by teachers, so learners are left unaware of their importance. When teachers fail to take the lead in suprasegmental instruction, their students suffer, and are ultimately unaware of what they need most in their learning.

Remedying the Dilemma

The ESL/EFL field, concerned with these mismatches between beliefs and research-supported priorities and pedagogy, must seek to remedy the dilemma. Baker's (2011) subjects believed suprasegmentals should be given more attention in ESL/EFL-related graduate degrees, conferences, and articles. Applied pronunciation classes that emphasize suprasegmentals would do much in educating teachers, giving them the tools they and their students need. Professional development should be an ongoing process involving the reading of a variety of scholarly journals and the sharing of knowledge between colleagues, whether it is a one-on-one informal meeting or a conference. Available materials are also a problem because they do not address the instruction of and importance of suprapsegmentals and pronunciation fully, which discourages teachers from including them in their lessons effectively (Baker, 2011). Teachers need quality materials based on sound research. More research needs to be done to decide the instructional priorities of pronunciation based on their functional load, learnability, and effects on intelligibility. MacDonald (2002) predicts that giving pronunciation more emphasis in the

curriculum would drive change, leading teachers to update their skills. A curriculum including a pronunciation component needs solid learner goals, an effective assessment framework, and focus. Training, materials, and curriculum should reflect current findings to ensure teacher and learner beliefs are in accordance and to keep the field moving forward.

Though teacher and learner beliefs are not always in line with current research, there is a remedy. Preconceived notions and false beliefs evaporate in the presence of knowledge gained. Teachers will feel comfortable instructing their students in suprasegmental-focused pronunciation once they receive the necessary education. Their continued professional development in that arena will keep their skills sharp. As the beliefs of teachers come in line with current research, it will trickle down to the learners, providing a likeminded and productive approach to learning a second language.

Chapter Six

Sample Nuclear Stress Exercises

Introduction

This Chapter contains exercises for teaching nuclear stress. I have chosen to demonstrate how to teach nuclear stress because the students I tutored during my ESL pronunciation class improved the most in this suprasegemental feature. As established in Chapter Three, nuclear stress is also essential for intelligibility.

The exercises are grounded in both Sardegna and McCarthy's (2012) three principles of teaching and Celce-Murcia et al's (2010) five-part pronunciation framework. Both of these theoretical frameworks have been explained in Chapter Four. This Chapter begins with an application of the principles before it delves into incorporating Celce-Murcia et al's framework. An awareness-building phase called description and analysis initiates the framework before moving on to perception with listening discrimination, which leads to production activities. The production activities commence with controlled practice, a highly structured exercise, and continue through guided and communicative practice, which are increasingly less-structured. Again, this five-part pronunciation framework allows for an initial focus on form that steadily leads to a focus on meaning and form, so a student is able to fully attend incrementally more complicated tasks and internalize the target feature.

Applying Sardegna and McCarthy's Three Principles

Principle 1: Pronunciation goals should be prioritized based on student need

Both teacher and student must understand what their goals are in instruction before deciding what to practice in class. Before teaching any pronunciation target, the teacher should

conduct an assessment to fulfill this principle. This assessment can be assigned by instructing students to audio-record themselves completing an objective measurement (reading a text aloud) and/or by assigning a holistic task (speaking independently about a topic for two or three minutes, for example). Students' production can be audio recorded using free audio software (e.g., Audacity). The teacher and student can then independently identify three challenging target features after listening to the recorded performance. Afterwards, the teacher can set up a meeting to speak with the student for about fifteen minutes to compare student and teacher lists of weaknesses, go over the features, and set up agreed-upon prioritized goals.

Principle 2: Teachers should empower students with explicit instruction, guided practice and strategy use.

Teachers can draw explicit attention to target features through guided speech perception activities. These activities can train a learner to understand the feature and know how to listen for the feature and correct or practice it. The script below is an example that could be used to draw attention to suprasegmental features such as pausing, linking, or nuclear stress. The corresponding video can be found at http://www.elllo.org/video/1001/V1011-Howhomediffers.htm. The script coincides with the video at the forty second mark. This activity can be completed at home at the students' leisure.

Script:

> The town I'm from, Fredericksburg, Texas was originally settled by German immigrants. It was a farming community that grew into a large farming and ranching area. Over the years it has turned into a tourist destination because of the beauty of the area and the desirability of people who want to live and vacation in this part of Texas.

There's lots of shopping, small towns, parks, rivers, and lakes for all kinds of outdoor activities and some very historical areas also.

The following are some possible thought-provoking questions and tasks for the student to complete during and after the video:

1. Listen to the first two sentences. What makes the speaker sound "natural"?
2. Where does the speaker pause in the first two sentences? Mark pauses in the script with a slash to separate message units.
3. What words stand out in these message units? Why were these words chosen to stand out by the speaker? What type of words are they? Mark a darkened circle above these stressed words.
4. Predict the pauses and nuclear stress of the rest of the script using slashes and darkened circles.
5. Check your predictions by listening to the audio for the whole script. Were there any differences? Can you explain them? If you have trouble explaining any differences, bring them to the next class. Correct any understood differences.
6. Reflect on your goals and target features. What needs improving? Focus on the features you believe you need improvement on. Listen to the audio again, while mimicking the production of them. Repeat this exercise until you feel more comfortable and accurate with the feature.
7. Once you feel comfortable, record yourself reading the script aloud in the same manner as the speaker in the video. Use the marks you have made as a guide.
8. Email this recording to me for feedback.

Principle 3: Create opportunities for students to monitor their performance during their pronunciation practice, and reflect on their outcomes.

Teachers should provide engaging activities using authentic materials, and students need time and space to monitor and reflect on their performances and goals to check their progress and make corrections. Rushing students to answer or going through Celce-Murcia et al's five steps too quickly may not give them the time they need to process what they have learned.

Celce-Murcia et al's Pronunciation Framework

Description and Analysis

To raise awareness of nuclear stress, a teacher can write a short sentence three times on the board with separate stress patterns for each. Perhaps the teacher could capitalize the letters receiving the stress or use a separate colored chalk. If using a computer projector, one can simply bold and capitalize the stressed word/syllables as I do below. The teacher could then read the sentences aloud randomly, and students can guess which stress pattern the teacher has chosen. Afterwards, the students can practice the sentences producing the stress patterns.

Here are examples:

1. They're **GO**ing.
2. **THEY'RE** going.
3. They **ARE** going.

Once the students can successfully produce the needed stress, the teacher can ask the student in what situation each statement could be used. The rationales for each statement can be discussed. For reinforcement, the teacher can write on the board to the left of the three statements three questions. The students could come to a consensus on what element in the statement links it to the question. Here are examples:

1. What are they doing? They're **GO**ing.
2. Who are going? **THEY'RE** going.
3. Why aren't they going? They **ARE** going.

Listening Discrimination –

Once students understand the uses and rules of nuclear stress, dialogues and scripts can be supplied to students to aid them in distinguishing nuclear stress in real-life contexts. These can either be read aloud by the teacher with the correct stress or a podcast, online video, or some other audio along with an available script marked for message units can be used. The student can listen to the audio and then circle the stressed word in each message unit. The audio can be a conversation or a short anecdote or anything authentic. The following is a video taken from TED talks at http://www.ted.com/talks/william_ury.html. The script for story is broken into message units, and the students must choose while listening to the audio where the stress is placed. It is told in an authentic, conversational manner.

Script:

Well, the subject of difficult negotiation | reminds me | of one of my favorite stories | from the Middle East, | of a man who left to his three sons | seventeen camels. | And to youngest son he left a ninth of the camels.| Well, three sons got into a negotiation. | Seventeen doesn't divide by two. | It doesn't divide by three. | It doesn't divide by nine.| Brotherly tempers started to get strained. | Finally, in desperation, | they went | and they consulted | a wise old woman. | The wise old woman thought about their problem for a long time, | and finally she came back and said: | "Well, I don't know if I can help you, | but at least, if you want, | you can have my camel." | So then they had eighteen camels.|

The first son took his half–| half of eighteen is nine.| The second son took his third–| a third of eighteen is six.| The youngest son took his ninth–| a ninth of eighteen is two.| You get seventeen. | They had one camel left over. | They gave it back to the wise old woman. |

Controlled Practice

After becoming aware of target feature, nuclear stress, and the student can make predictions about stressed words or syllables in each message unit, they are ready for controlled production. First, students can read a scripted two-person dialogue and predict the stress. Then, with a partner, the students can adopt one of the roles and perform the dialogue with their assumptive stresses. While this is going on, the teacher should wander across the room listening in on these dialogues and giving feedback on student production. The following two dialogues are examples of two types of nuclear stress: new information and choice. Hahn and Dickerson (1999) explain new information as "words or ideas in a message unit that are new to the conversation" (p. 63). When there is new information in a message unit, the last new content word is stressed. This does not apply, however, if there is a choice involved. Choices are given stress instead of last new content words.

Exercise One:

Speaker 1: Why weren't you in class to**DAY**?

Speaker 2: I over**SLEPT**. | Did I miss anything im**POR**tant in class?

Speaker 1: Yes,| you missed a pop **QUIZ**!

Speaker 2: Oh **NO**!| Not a**NOTH**er pop quiz! |

Exercise Two:

Speaker 1: Would you like **CHOC**olate, | va**NIL**la, | or **STRAW**berry ice cream?

Speaker 2: I'd like va**NIL**la ice cream, please.

Speaker 1: **SURE**. | Do you want a **SUG**ar cone | or a **WAFF**le cone?

Speaker 2: I'd like it in a **WAFF**le cone.

Guided Practice

Guided practice allows a bit more creative communication for students while still retaining a level of structure. A teacher-modeled dialogue should introduce the structure and context of the activity. For example, if the context is a customer ordering from a waiter, a menu could be provided and the model dialogue displayed on the projector or written on the board could guide the student's answer. It would be an excellent way to present *either…or* nuclear stress. When a sentence contains *either…or*, the choices within a single message unit are both stressed. The teacher may begin with something like this:

Exercise:

Waiter: What would you like to **ORD**er?

Customer: I would like the **STEAK**, please.

Waiter: And what **SIDE** would you like, | either our **SALAD** or po**TA**toes?

Customer: I'd like the **SALAD**.

Once this information-gap exercise has been modeled, students can break up into groups and use the menu to plug in their hypothetical choices. Partners switch roles to practice all the lines.

Communicative Practice

Communicative practice should allow independent verbal communication using the target features. An example of communicative practice in nuclear stress could include a group of friends vacationing in Austin, Texas together. This activity can be completed in a small group, and it teaches how to use contrast. A list of possible tourist sites could help engage the students in choosing their favorite activities and sites to see. Contrast is built into the students' utterances because of the contrast between *who* is going *where*. Below is a word bank and possible answers. The teacher would model this activity before the students begin.

Vacation sites:

Shopping	Park
Live bands	Capitol Building
Museum	Swimming
Restaurants	Lake

The students would each decide where they would like to go on a vacation with friends to a new city. Then each student would explain what they were doing, and who wanted to do what. This highlights the contrast between what each person is doing. They will stress each person's name and their desired attraction

Example answer:

We're going on a va**CA**tion. I want to see live **BANDS**. **MARIE** wants to go **SWIM**ming. **MI** Hyun wants to go to a mu**SE**um, and **JUAN** wants to go **SHOP**ping.

These exercises are based on nuclear stress exercises in the textbook we used in ESL pronunciation (Celce-Murcia et al, 2010, pp. 226-230) and my own exercises I used to instruct two students as part of my ESL pronunciation class in the Fall of 2011.

Chapter Seven

Conclusion

In this Report, I have examined intelligibility as a model for second language instruction and the close relation suprasegmentals, especially word and nuclear stress, have with intelligibility. I have established through the research of experts in the field that this close relation is the reason for suprasegmentals' inclusion in pronunciation instruction. Pronunciation and suprasegmental research in pedagogy was analyzed and discussed, and teacher and learner beliefs were compared with current research-backed conclusions. Finally, I provided the readers of this Report sample lessons on nuclear stress to demonstrate how to incorporate the five-step pronunciation framework into a classroom or tutoring setting.

I have ultimately sought to demonstrate in this Report the importance of suprasegmentals and how one might teach them. I accomplished this with some help. My ESL pronunciation instructor, Dr. Veronica Sardegna, held her students to a rigorous standard, and her class afforded me the chance to apply what I had learned by creating my own pronunciation exercises for the tutoring of my students. My experiences have since been further enriched by the research I have read, taken notes from, and included in this Report. It is my sincere hope that readers of the Report will find it informative and an aid in instruction. At the very least, I hope it may point the reader to the literature covered here to learn more.

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